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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,359	12/28/2004	Paul Burt	122241	2993

25944 7590 07/12/2006

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P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER

EVANS, GEOFFREY S

ART UNIT	PAPER NUMBER
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1725

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/519,359		BURT ET AL.	
	Examiner		Art Unit	
	Geoffrey S. Evans		1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29,30 and 33-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 29,30 and 33-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claim 44 is rejected under 35 USC 112, second paragraph as being vague and indefinite. In claim 44 on line 2 there is no antecedent basis for " the secondary supply means".

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 29,33-42,46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niwa et al. in Japan Patent No. 60-49,887 in view of Soga et al. in Japan Patent No. 8-238,587. Niwa et al. discloses a laser welding apparatus with a laser head (element 18) that focuses a laser beam, uses a nozzle (element 26) supplies a gas to remove metallic vapor from the weld zone and has a diametrically opposed nozzle element 30 to remove this vapor. Soga et al. teach delivering a jet of argon gas at an

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angle of 10-70 degrees (see paragraph 8) towards an impingement point that is a distance X from the laser impingement point on the workpiece surface to remove plasma and adjusting the distance X depending upon the welding conditions (see first sentence in paragraph 7). It would have been obvious to adapt Niwa et al. in view of Soga et al. to provide this to suppress plasma so that laser welding can be accomplished efficiently by not having the laser beam attenuated by the plasma. It would have been obvious to adapt Niwa et al. in view of Soga et al. to vary the distance X from the impingement point depending upon the welding conditions, to vary the amount of gas supply needed to suppress the plasma.

5. Claims 30, 44, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niwa et al. in view of Soga et al. as applied to claim 29 above, and further in view of Aoyama in Japan Patent No. 2000-263,276. Aoyama teaches a nozzle (element 15) adjacent to the laser head to provide a jet of high velocity gas to protect a cover slide (element 13). It would have been obvious to adapt Niwa et al. in view of Soga et al. and Aoyama to provide this to protect the optics in the machining head.

6. Claims 43 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niwa et al. in view of Soga et al. and Aoyama as applied to claim 30 above, and further in view of Suzuki et al. in Japan Patent No. 59-223,191. Suzuki et al. teaches a nozzle made of a row of small outlets (see figure 4) to protect an optical element from spatter. It would have been obvious to adapt Niwa et al. in view of Soga et al., Aoyama and Suzuki et al. to provide this to fully protect the cover slide.

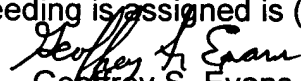
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7. Applicant's arguments with respect to claims of record have been considered but are moot in view of the new ground(s) of rejection. The gas supplied by Niwa et al. is considered to be "plasma suppressing" since it removes metallic vapor from the impingement point.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey S Evans whose telephone number is (571)-272-1174. The examiner can normally be reached on Mon-Fri 6:30AM to 4:00 PM, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on (571)-272-1292. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

GSE


Geoffrey S. Evans
Primary Examiner
Group 1700